

Chordin Dorsalizing and Hemoglobin Inducing Polypeptides and Nucleic Acids  
Encoding the Same.

**STATUS OF THE CLAIMS:**

Claims 22-34 are rejected.

Claims 27 and 33 are amended herein.

Claims 22-26, 30 and 31 are withdrawn.

Claims 35-40 are newly added herein.

Claims 27-29 and 32-47 are pending.

**AMENDMENTS:**

The following listing of the claims reflects all amendments to the claims and will replace all prior versions and listings of claims in the present application:

22. (Withdrawn) An isolated polypeptide having at least 80% sequence identity to:

- (a) the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO:7);
- (b) the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO: 7), lacking its associated signal peptide;
- (c) the amino acid sequence of the extracellular domain of the polypeptide shown in Figure 4 (SEQ ID NO: 7);
- (d) the amino acid sequence of the extracellular domain of the polypeptide shown in Figure 4 (SEQ ID NO: 7), lacking its associated signal peptide; or
- (e) the amino acid sequence of the polypeptide encoded by the full-length coding sequence of the cDNA deposited under ATCC accession number 209508.

23. (Withdrawn) The isolated polypeptide of Claim 22 having at least 85% sequence identity to:

- (a) the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO:7);
- (b) the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO: 7), lacking its associated signal peptide;

- (c) the amino acid sequence of the extracellular domain of the polypeptide shown in Figure 4 (SEQ ID NO: 7);
- (d) the amino acid sequence of the extracellular domain of the polypeptide shown in Figure 4 (SEQ ID NO: 7), lacking its associated signal peptide; or
- (e) the amino acid sequence of the polypeptide encoded by the full-length coding sequence of the cDNA deposited under ATCC accession number 209508.

24. (Withdrawn) The isolated polypeptide of Claim 22 having at least 90% sequence identity to:

- (a) the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO:7);
- (b) the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO: 7), lacking its associated signal peptide;
- (c) the amino acid sequence of the extracellular domain of the polypeptide shown in Figure 4 (SEQ ID NO: 7);
- (d) the amino acid sequence of the extracellular domain of the polypeptide shown in Figure 4 (SEQ ID NO: 7), lacking its associated signal peptide; or
- (e) the amino acid sequence of the polypeptide encoded by the full-length coding sequence of the cDNA deposited under ATCC accession number 209508.

25. (Withdrawn) The isolated polypeptide of Claim 22 having at least 95% sequence identity to:

- (a) the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO:7);
- (b) the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO: 7), lacking its associated signal peptide;
- (c) the amino acid sequence of the extracellular domain of the polypeptide shown in Figure 4 (SEQ ID NO:7);
- (d) the amino acid sequence of the extracellular domain of the polypeptide shown in Figure 4 (SEQ ID NO:7), lacking its associated signal peptide; or

(e) the amino acid sequence of the polypeptide encoded by the full-length coding sequence of the cDNA deposited under ATCC accession number 209508.

26. (Withdrawn) The isolated polypeptide of Claim 22 having at least 99% amino acid sequence identity to:

- (a) the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO:7);
- (b) the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO:7), lacking its associated signal peptide;
- (c) the amino acid sequence of the extracellular domain of the polypeptide shown in Figure 4 (SEQ ID NO:7);
- (d) the amino acid sequence of the extracellular domain of the polypeptide shown in Figure 4 (SEQ ID NO:7), lacking its associated signal peptide; or
- (e) the amino acid sequence of the polypeptide encoded by the full-length coding sequence of the cDNA deposited under ATCC accession number 209508.

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27. (Currently Amended) An isolated polypeptide comprising:

- (a) the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO:7);
- (b) the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO: 7), lacking its associated signal peptide;
- (c) the amino acid sequence of the extracellular domain of the polypeptide shown in Figure 4 (SEQ ID NO: 7);
- (d) the amino acid sequence of the extracellular domain of the polypeptide shown in Figure 4 (SEQ ID NO: 7), lacking its associated signal peptide;]  
or

[(e)](c) the amino acid sequence of the polypeptide encoded by the full-length coding sequence of the cDNA deposited under ATCC accession number 209508.

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28. (Previously Added) The isolated polypeptide of Claim 27 comprising the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO:7).

29. (Previously Added) The isolated polypeptide of Claim 27 comprising the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO: 7) lacking its associated signal peptide.

30. (Withdrawn) The isolated polypeptide of Claim 27 comprising the amino acid sequence of the extracellular domain of the polypeptide shown in Figure 4 (SEQ ID NO: 7).

31. (Withdrawn) The isolated polypeptide of Claim 27 comprising the amino acid sequence of the extracellular domain of the polypeptide shown in Figure 4 (SEQ ID NO: 7), lacking its associated signal peptide

32. (Previously Added) The isolated polypeptide of Claim 27 comprising the amino acid sequence of the polypeptide encoded by the full-length coding sequence of the cDNA deposited under ATCC accession number 209508.

*D2*  
33. (Currently Amended) A chimeric polypeptide comprising a polypeptide according to Claim [22] 27 fused to a heterologous polypeptide.

34. (Previously Added) The chimeric polypeptide of Claim 33, wherein said heterologous polypeptide is an epitope tag or an Fc region of an immunoglobulin.

Please add new claims 35-47.

35. (New) An isolated hemoglobin inducing polypeptide having at least 90% amino acid sequence identity to:

*D3*  
(a) the amino acid sequence of the polypeptide shown in Figure 4 (SEQ ID NO:7);

(b) the amino acid sequence of the polypeptide show in Figure 4 (SEQ ID NO:7), lacking it associated signal peptide; or

(c) the amino acid sequence of the polypeptide encoded by the full-length coding sequence of the cDNA deposited under ATCC accession number 209508.

36. (New) The isolated polypeptide of claim 27 comprising four cysteine rich clusters.

37. (New) The isolated polypeptide of claim 36, comprising a cysteine rich cluster at residues about 51 to about 125 of SEQ ID NO. 7.

38. (New) The isolated polypeptide of claim 37, comprising a second cysteine rich cluster at residues about 705 to about 761 of SEQ ID NO. 7.

39. (New) The isolated polypeptide of claim 38, comprising a third cysteine rich cluster at residues about 784 to about 849 of SEQ ID NO. 7.

40. (New) The isolated polypeptide of claim 39, comprising a fourth cysteine rich cluster at residues about 897 to about 931 of SEQ ID NO. 7.

41. (New) The isolated polypeptide of claim 40 further comprising a signal peptide at residues 1 to about 23 of SEQ ID NO. 7.

42. (New) The isolated polypeptide of claim 27 comprising a leucine zipper at residues about 315 to about 396.

43. (New) The isolated polypeptide of claim 27 comprising four N-glycosylation sites.

44. (New) The isolated polypeptide of claim 43 comprising a first N-glycosylation site at about residue 217.

45. (New) The isolated polypeptide of claim 44 comprising a second N-glycosylation site at about residue 351.

46. (New) The isolated polypeptide of claim 45 comprising a third N-glycosylation site at about residue 365.

47. (New) The isolated polypeptide of claim 46 comprising a fourth N-glycosylation site at about residue 434.

#### SUPPORT FOR AMENDMENT

Claims 27 and 33 are amended herein. Amended claim 33 is supported throughout the specification, including by original claim 33. Amended claim 27 is supported throughout the specification, including by original claim 27 and on pages 2, 10, 55, 79, 94-97, 140 and 142. New claims 35-47 are added herein. Support for new claims 35 may be found throughout the specification including at page 142. Support for new claims 36-47 may be found throughout the specification including on pages 10 and 79.